

Abstract

The Solar Cooker is easy to build solar radiation collection system with the ability to produce high radiation energy from a large reflector or reflectors. The system consists of a main primary radiation reflector and a secondary radiation reflector that are made from reflective materials such as: mylar, film, mirror, metal etc. The secondary reflector is much narrower and smaller than the main reflector. The primary reflector sheet is curved to parabolic form and reflects the radiation in linear form to the secondary reflector. The secondary reflector, at a 90degree angle from the main reflector, transfers the linear reflected line to a smaller area. The system is designed to be sole energy producer or an auxiliary energy generator for the solar ovens that are design to collect radiation from the top.

Description of Solar Cooker - Heater

The Solar Cooker is an economical and easy to build solar radiation collection system with the ability to produce high radiation energy. The amount of energy produced depends on the size of the primary reflector or on the number of primary reflectors used to reflect the radiation to the secondary reflector. The system consists of a main primary radiation reflector (or primary reflectors) and a secondary radiation reflector. The surface of primary and secondary reflectors are made from reflective materials such as: mylar, film, mirror, metal etc. The secondary reflector is much smaller and narrower than the main reflector. The primary reflector sheet is curved (bent) close to parabolic form as possible and reflects the radiation in linear form (line) to the secondary reflector. The secondary reflector, which is curved (bent) at a 90degree angle from the main reflector, transfers and changes the linear reflected line to a point (spot, smaller area). The primary and secondary reflectors are design to be in a fixed position and/or adjustable, movable and detachable. Both the primary and or secondary reflector has a mechanism for adjusting the inclination for focusing purposes. The system accommodates multiple primary reflectors that are focus on a secondary reflector to produce more radiation energy. The system is designed to be sole energy producer or an auxiliary energy generator for the solar ovens that are design to collect radiation from the top.